

What is claimed is:

1. An erosion control system comprising:
a flexible matting adapted to be secured to or placed on a sloped, substantially unvegetated surface, the matting including
a core layer formed of a fiber matrix comprising randomly oriented fibers; and
an upper layer bonded to the core layer;
wherein the core layer and upper layer define a substantially flat upper surface of the matting being without substantial three-dimensional features.
2. The system of claim 1 wherein the matting has a density of at least about 0.5 pounds per square yard.
3. The system of claim 1 wherein the matting has a density of at least about 0.7 pounds per square yard.
4. The system of claim 1 wherein the upper surface of the matting has a Mannings "N" value of roughness of less than about 0.044.
5. The system of claim 1 wherein the upper surface of the matting has a Mannings "N" value of roughness of about 0.026.
6. The system of claim 1 wherein the flexible matting is structured to substantially prevent soil loss from the sloped, unvegetated surface when the surface is exposed to at liquid flow at a velocity of greater than about 9.5 feet per second and less than about 20 feet per second.

7. The system of claim 1 wherein the flexible matting is structured to prevent substantial soil loss from the sloped, substantially unvegetated surface when the surface is exposed to a liquid flow having a duration greater than about 30 minutes to about 50 hours.

8. The system of claim 1 wherein the flexible matting is structured to prevent substantial soil loss from the substantially unvegetated, sloped surface when the surface is exposed to flow conditions having velocities of greater than about 9.5 feet per second to about 20 feet per second and a duration of greater than about 30 minutes to about 50 hours.

9. The system of claim 1 wherein the fiber matrix comprises a material selected from the group consisting of coconut fibers, flax fibers, polypropylene fibers and combinations thereof.

10. The system of claim 1 wherein the upper layer comprises a geogrid.

11. The system according to claim 10 wherein the upper layer comprises a biaxial geogrid

12. The system of claim 11 wherein the biaxial geogrid is stitch bonded with the core layer.

13. An erosion control system comprising:
a flexible matting structured to prevent substantial soil loss from the substantially unvegetated, sloped surface when the matting is secured to the surface and the surface is exposed to a liquid flow having a velocity of greater than

about 9.5 feet per second to about 20 feet per second and a duration of greater than about 30 minutes to about 50 hours, the matting including

a core layer formed of a fiber matrix comprising randomly oriented fibers; and

a geogrid layer bonded to an upper surface of the core layer;

wherein the core layer and geogrid layer define a substantially flat upper surface of the matting being without substantial three-dimensional features and having a Mannings "N" value of roughness of less than about 0.44 to about 0.26.

14. An erosion control system comprising:

a flexible matting structured to be secured to or placed on a surface prone to erosion, the matting including a core layer formed of a fiber matrix comprising randomly oriented plant fibers, the plant fibers being effective in releasing effective amounts of nutrients to the surface upon decomposition of the plant fibers.

15. The system of claim 14 wherein the plant fibers have a nutrient content of at least 0.6% potassium, 1.25% nitrogen, and 2.0% phosphate, based upon 100% dry matter.

16. The system of claim 14 wherein the fiber matrix is substantially absent of wheat straw.

17. The system of claim 14 wherein the fiber matrix comprises Sudan grass.

18. The system of claim 14 further comprising a geogrid secured to the core layer.

19. An erosion control system comprising:
a flexible matting structured to be secured to or placed on a surface prone to erosion, the matting including a core layer formed of rice straw fibers.

20. The system of claim 19 wherein the core layer is formed of randomly oriented rice straw fibers.

21. The system of claim 19 wherein the flexible matting further includes a geogrid secured to an upper surface of the core layer.

22. The system of claim 19 wherein the flexible matting further includes a polypropylene geogrid secured to an upper surface of the core layer.